

Att'y Dkt. No. US-159

U.S. App. No: 10/716,253

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**REMARKS**

Favorable reconsideration, reexamination, and allowance of the present patent application are respectfully requested in view of the foregoing amendments and the following remarks. The amendments to the claim are made to correct the grammar and clarity of the claim, and hence do not present any new matter. Support for the amendment can be found at page 5, last paragraph, to page 6, through the end of the first paragraph.

***Interview held on November 4, 2004***

Applicant's representative greatly thanks the Examiner for taking his time to meet and discuss the pending claims and outstanding rejections.

***Claim of Priority under 35 U.S.C. §119***

The Examiner has requested the certified copy of the foreign priority document, JP 2001-228882. Applicants provided this document in a separate communication on October 22, 2004.

***The rejection of claim 1 under 35 U.S.C. §112, 2<sup>nd</sup> paragraph***

Claim 1 has been rejected under 35 U.S.C. §112, 2<sup>nd</sup> paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner has alleged that the phrase "the amount sufficient" is vague and indefinite. Applicants respectfully disagree and point the Examiner to the explanation in the specification on page 5, the last paragraph, which reads, "[t]he amount thereof is an amount not more than the amount sufficient to form an aqueous saturated solution of the crude crystals to form an aqueous saturated solution of the crude

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crystals to be purified."

To advance prosecution, however, applicants have amended the claims to remove the objectionable language. The language presented in the above amendment to claim 1 was approved by the Examiner as definite in a follow-up phone conversation with the undersigned on November 4, 2004. Applicants assert that the claim is definite, and respectfully request withdrawal of the rejection.

***The rejection of claim 1 under 35 U.S.C. §103 over Ito et al. (U.S. Patent 3,565,950)***

The Examiner rejected claim 1 under 35 U.S.C. §103 over Ito et al. (hereinafter the "'950 patent") as allegedly being obvious over the teachings of this reference. The Examiner alleges that Ito et al. teaches a method of purifying crude crystals of L-glutamic acid by transforming at least 40% of  $\alpha$  crystals of L-glutamic acid at a temperature of 50°C or higher in an aqueous medium insufficient to dissolve the entire crystals to form the  $\beta$  crystals of L-glutamic acid.

Applicants respectfully disagree with the Examiner's assertion of obviousness over the '950 patent for the following reasons. Applicants' invention discloses for the first time the use of activated carbon to enable a higher speed of transition recrystallization from  $\alpha$  crystals to  $\beta$  crystals of L-glutamic acid, and thereby unexpectedly increasing the yield of  $\beta$  crystals. This is accomplished by decreasing the amount of PCA, which is a by-product of recrystallization. The active carbon is unexpectedly able to coexist with the crystals during the transition recrystallization process.

The '950 patent also teaches transition recrystallization of  $\alpha$  crystals to  $\beta$  crystals of L-glutamic acid, and suggests using activated carbon for its known use of removal of

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impurities following the transition to  $\beta$  crystals. This is a completely different use of activated carbon and at a distinctly different time in the process. Using activated carbon to remove impurities from the mother liquor after removal of the  $\beta$  crystals was well-known in the art for such purification processes, and that such impurity removal enabled recycling of the liquor treated with activated carbon. What was not known was that adding activated carbon to  $\alpha$  crystals at the beginning of the process will speed the transition recrystallization process, and enable one to obtain higher yields. Such a result, and the use of activated carbon, was completely unknown and unexpected. It is not clear how a known use of activated carbon for removal of impurities would allow one of skill in the art to predict the use of activated carbon earlier in the purification process for speeding the process and obtaining higher yields. Rather, applicants assert that such an outcome was completely unpredicable and unexpected, and hence unobvious.

For these reasons, applicants respectfully request that the rejection be withdrawn.

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**Conclusion**

For at least the foregoing reasons, Applicant respectfully submits that the present patent application is in condition for allowance. An early indication of the allowability of the present patent application is therefore respectfully solicited.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and the undersigned authorizes charging the requisite fees to our deposit account 50-3077.

Respectfully submitted,

By: \_\_\_\_\_

  
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